

Mr. Chairman and Members of the Committee:

Over two decades have passed since the Congress phased out the federal government's control over airfares and service, relying instead on competitive market forces to decide the price, quantity, and quality of domestic air service. Last week, we issued a report on the changes in airfares and service quality since deregulation.<sup>1</sup> Our testimony is based on information that we developed for that report and specifically addresses the changes in airfares and service quality at airports serving Charleston and other communities in South Carolina. We also performed additional audit work at your request and will discuss the differences in airfares charged to business and leisure passengers traveling to and from Charleston. In summary, we found the following:

- Most communities in the United States have benefited from a decrease in average airfares since 1990. Airfares for passengers traveling to and from the four South Carolina airports that we reviewed--Charleston, Columbia, Greenville-Spartanburg, and Myrtle Beach--also declined from 1990 through 1998. Since 1994, however, the average airfares for Charleston, Columbia, and Greenville-Spartanburg have increased. The average airfares to and from these communities are higher than those for the nation as a whole or for comparably sized communities.
- Since deregulation, the overall quality of air service, as measured by various quantitative (i.e., number of scheduled departures) and qualitative (i.e., availability of jet service) factors has increased at Myrtle Beach and Greenville-Spartanburg. However, the overall quality of air service has decreased at Charleston and Columbia.
- Airfares charged to business passengers using Charleston's airport are much higher than those charged to leisure passengers for flights of all lengths, and business fares consistently increased from the second quarter of 1992 through the second quarter of 1998.

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<sup>1</sup>Airline Deregulation: Changes in Airfares, Service Quality, and Barriers to Entry (GAO/RCED-99-92, Mar. 4, 1999).



## OVERALL CHANGES IN AIRFARES AND SERVICE

Last week, we reported on trends in airfares and the quality of air service since deregulation for airports serving comparably sized communities.<sup>2</sup> To determine how fares have changed, we analyzed data on airfares to and from 171 airports provided by the airlines to the Department of Transportation (DOT) from 1990 to 1998.<sup>3</sup> Our findings were similar to those we reported in 1996--fares adjusted for inflation have fallen since deregulation.<sup>4</sup> Average airfares decreased at 168 of the 171 airports we examined, with airports serving larger communities tending to experience greater decreases than smaller ones. Because significant changes could occur over this span of nearly 9 years, we also examined airfare changes from 1990 through 1993 and then from 1994 through the second quarter of 1998. For this latter period, we found that although average airfares decreased for passengers flying to or from most airports, they increased for passengers traveling to and from 39 airports. Passengers making short trips to or from airports serving larger communities were most likely to experience these increases. Although we were able to associate declines in average airfares with the introduction of competing service from low-fare carriers, we were unable to account for all of the factors that can contribute to differences in airfares to and from airports.

We also reported that the overall quality of air service had generally improved for most

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<sup>2</sup>We analyzed data for 171 airports: 42 serving small communities, 42 serving medium-sized communities, 42 serving medium-large communities, and 45 serving large communities. Small communities were those in a metropolitan statistical area with a population of up to 300,000, medium-sized communities were those in an area with a population of 300,001 to 600,000, medium-large communities were those in an area with a population of 600,001 to 1.5 million, and large communities were in an area with a population of more than 1.5 million.

<sup>3</sup>Data from the second quarter of 1998 were the most current available at the time of our work. Throughout the remainder of this report, references to 1998 airfares should be interpreted as those for the latest four quarters of airfare data available, beginning with the third quarter of 1997 and ending with the second quarter of 1998. We measured changes in airfares using data reported by the airlines on revenue yields per fared passenger mile. Thus, we excluded from our calculations passengers flying on free tickets. Throughout this testimony, we use the term airfare instead of yield. Additionally, all data in the testimony have been deflated into dollars reflecting those for the last four quarters.

<sup>4</sup>See the list of related products at the end of this statement.

communities since 1978, although larger communities were more likely to benefit from these improvements than smaller ones. Assessing trends in the overall quality of air service is difficult because many factors contribute to the quality of service. This assessment requires, among other things, a subjective weighting of the relative importance of each measure that is generally considered a dimension of quality. In assessing the overall quality of air service received by communities in each of the size categories included in our study, we used four commonly accepted measures, including the number of (1) departures, (2) available seats, (3) destinations served by nonstop and one-stop flights, and (4) jet departures compared with the number of turboprop departures. Nonstop service is generally considered preferable to flights requiring a stop, and jet aircraft are favored over turboprop aircraft.

#### CHARLESTON, COLUMBIA, AND GREENVILLE-SPARTANBURG HAVE BENEFITED ONLY SLIGHTLY FROM DECREASES IN AIRFARES

Since 1990, for the 171 airports in our review, average airfares decreased 21 percent. However, the decrease in average airfares at the airports serving Charleston, Columbia, and Greenville-Spartanburg was more modest--less than 7 percent. Of the airports that serve South Carolina included as part of our review, only Myrtle Beach experienced a marked decrease in its average airfares.<sup>5</sup> Its average decrease of 29.8 percent was similar in magnitude to the average 21-percent decrease reported for the other airports in our review.

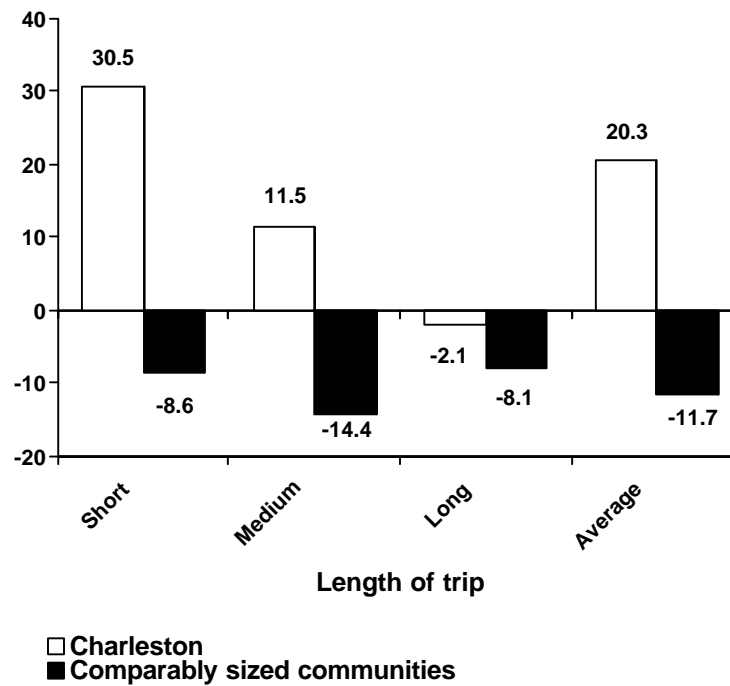
Since 1994, average airfares decreased only for the airport serving Myrtle Beach. Airports serving the other three communities--Charleston, Columbia, and Greenville-Spartanburg--were among the 39 in our review where average airfares increased between 1994 and the second quarter of 1998. Of the 39 communities, Charleston had the third highest increase--an increase of 20.3 percent. Only Greensboro, North Carolina, with an average increase of 32 percent, and Roanoke, Virginia, with an

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<sup>5</sup>In most cases, more than one airport serves each of these communities. For Columbia, we analyzed data for Columbia Metropolitan Airport; for Myrtle Beach, we analyzed data for the Myrtle Beach International Airport; and for Greenville-Spartanburg, we analyzed data for the Greenville-Spartanburg Airport.

average increase of 24 percent, had airfares increase by a higher percentage during this period. Figure 1 compares the change in average airfares for Charleston and other comparably sized communities.<sup>6</sup>

**Percent change, 1994-98**  
**Figure 1: Percent Change in Average Airfares for Charleston and Comparably Sized Communities, by Length of Trip, 1994-98**



Source: GAO's analysis of data from Data Base Products, Inc.

<sup>6</sup>We categorized Charleston as a medium-sized community.

Since 1994, for Charleston, Columbia, and Greenville-Spartanburg, the average increase in airfares for short trips exceeded the average increase for medium-length trips.<sup>7</sup> For example, for Greenville-Spartanburg, the average increase for short trips was 25.2 percent, but the average increase for medium-length trips was 15.5 percent. Table 1 summarizes the percent change in average airfares by community and length of trip for 1990 through 1998.<sup>8</sup>

Table 1: Percent Change in Average Airfares per Passenger Mile by South Carolina Community and by Length of Trip, 1990-98

| Community              | Length of trip | Percent change in average airfares <sup>a</sup> |         |         |
|------------------------|----------------|---|---------|---------|
|                        |                | 1990-98   | 1990-93 | 1994-98 |
| Charleston             | Short          | -8.2  | -0.7    | 30.5    |
|                        | Medium         | -10.2   | 3.7     | 11.5    |
|                        | Long           | 4.4   | 9.3     | -2.1    |
|                        | Overall        | -6.5  | 2.3     | 20.3    |
| Columbia               | Short          | -9.6  | 4.2     | 19.2    |
|                        | Medium         | 1.6   | 1.8     | 9.8     |
|                        | Long           | 14.6  | 15.2    | -4.0    |
|                        | Overall        | -3.6  | 5.0     | 13.8    |
| Greenville-Spartanburg | Short          | -1.8  | 8.5     | 25.2    |
|                        | Medium         | -0.6  | 2.2     | 15.5    |
|                        | Long           | 8.1   | 9.1     | -2.3    |
|                        | Overall        | -0.7  | 6.7     | 19.9    |
| Myrtle Beach           | Short          | -34.6   | -8.1    | -12.5   |
|                        | Medium         | -21.7   | -5.2    | -6.6    |
|                        | Long           | -2.4  | 4.0     | -2.2    |
|                        | Overall        | -29.8   | -6.3    | -10.5   |

<sup>a</sup>The percent change from 1990-98 does not always reflect the combination of the changes from 1990-93 and 1994-98 because of some airfare decreases between 1993 and 1994.

Source: GAO's analysis of data from Data Base Products, Inc.

Throughout the 1990s, airfares to and from the four airports serving South Carolina

<sup>7</sup>For the purpose of our analysis, we defined short trips as being equal to or less than 750 miles, medium-length trips as being between 751 and 2,000 miles, and long trips as being 2,001 miles or more.

<sup>8</sup>The overall percent differences represent weighted averages reflecting passenger distributions at each airport. For the rest of this report, references to average airfares refer to the weighted average.

communities have been higher than the average airfares both for the nation as a whole and for comparably sized communities.<sup>9</sup> For example, in 1998, travelers flying to or from Greenville-Spartanburg paid an average of 26.5 cents per mile. That amount is 81.8 percent higher than the national average airfare and 79.5 percent higher than the airfares paid by passengers at airports serving comparably sized communities. Travelers flying to or from Charleston paid an average airfare of 21.3 cents per mile, an amount 46.0 percent higher than the national average and 30.2 percent higher than the average airfares paid by passengers at comparably sized airports. Only at Myrtle Beach, where passengers paid airfares averaging 16.6 cents per mile in 1998 were airfares more favorable. Airfares at that airport were 14.0 percent higher than the national average but 0.5 percent lower than the airfares paid at comparably sized airports. We believe that the average airfares at Myrtle Beach have compared more favorably than those at the other South Carolina airports because Myrtle Beach is principally a vacation destination and it has low-cost competition. Table 2 identifies the average airfares paid by passengers at each airport serving the four communities in South Carolina and table 3 compares the percent difference in the average airfares paid by passengers in the four communities with those of comparably sized communities and those of all U.S. communities included in our review.

Table 2: Average Airfares Paid by Passengers Flying to or From Communities in South Carolina, 1990-98

| Community              | Average airfare, in cents per mile |      |
|------------------------|------------------------------------|------|
|                        | 1990                               | 1998 |
| Charleston             | 22.8                               | 21.3 |
| Columbia               | 25.5                               | 24.6 |
| Greenville-Spartanburg | 26.7                               | 26.5 |
| Myrtle Beach           | 23.7                               | 16.6 |

Source: GAO's analysis of data from Data Base Products, Inc.

Table 3: Percent Difference in Average Airfares Between Airports Serving

<sup>9</sup>Average airfares for passengers flying to or from South Carolina's airports are expected to be somewhat higher than the overall national average because many South Carolina trips tend to be relatively short. Short trips generally have higher costs per mile than longer trips, thus accounting for some of the difference against the national average.

Communities in South Carolina and Other Communities, 1990-98

| Community              | Percent difference in average airfares             |      |  |      |
|------------------------|--|------|--|------|
|                        | Between community and comparably sized communities |      | Between community and all continental U.S. communities |      |
|                        | 1990   | 1998 | 1990   | 1998 |
| Charleston             | 8.5  | 30.2 | 22.5   | 46.0 |
| Columbia               | 21.7   | 50.5 | 37.4   | 68.8 |
| Greenville-Spartanburg | 40.7   | 79.5 | 43.7   | 81.8 |
| Myrtle Beach           | 14   | -0.5 | 27.5   | 14.0 |

Source: GAO's analysis of data from Data Base Products, Inc.

OVERALL QUALITY OF AIR SERVICE HAS GENERALLY INCREASED AT MYRTLE BEACH AND GREENVILLE-SPARTANBURG

Although our previous review found that airports serving smaller communities were not as likely as those serving larger communities to experience an overall increase in the quality of air service, the airport serving Myrtle Beach did experience an increase in scheduled departures, available seats, and jet service. The airport serving Greenville-Spartanburg, much like other airports serving larger communities, also experienced an overall increase in the quality of air service.

The airports serving Charleston and Columbia, like those serving other smaller communities, experienced an overall decline in the quality of air service. For example, from 1978 through 1998, the airport serving Charleston experienced a 2-percent decrease in scheduled departures, a 16-percent decrease in available seats, a 10-percent decrease in nonstop flights, and a 22-percent decrease in jet service. Table 4 provides information on the percent change in the quality of air service from 1978 through 1998 for each of the four airports in South Carolina.<sup>10</sup> Figure 2 compares the difference in the quality of air service between Charleston and other airports serving comparably sized communities from 1978 through 1998.

Table 4: Percent Change in Measures of Air Service Quality, 1978-98

<sup>10</sup>All statistics referring to departures in this report are based on the number of scheduled nonstop flights from each airport.

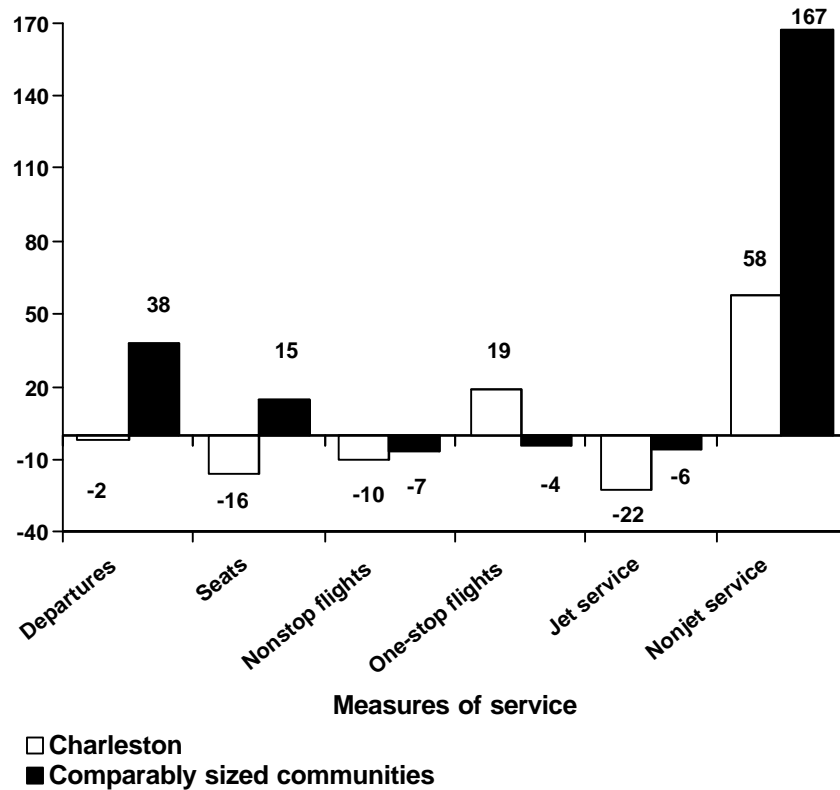


| Community              | Percent change in measures of quality, 1978-98 |       |                 |                  |             |                |
|------------------------|--|-------|-----------------|------------------|-------------|----------------|
|                        | Departures                                     | Seats | Nonstop service | One-stop service | Jet service | Nonjet service |
| Charleston             | -2   | -16   | -10             | 19               | -22         | 58             |
| Columbia               | -50  | -28   | -67             | -33              | -19         | -78            |
| Greenville-Spartanburg | 75   | 49    | 9               | 30               | 44          | 285            |
| Myrtle Beach           | 132  | 184   | 71              | 83               | 399         | -31            |

Source: GAO's analysis of airline schedule information provided by the Department of Transportation.

Figure 2: Percent Change in Measures of Air Service Quality at Charleston and Other Airports Serving Comparably Sized Communities, 1978-98

Percent change, 1978-98



Source: GAO's analysis of airline schedule information provided by the Department of Transportation.

#### IN THE CHARLESTON MARKET, BUSINESS FARES INCREASED WHILE LEISURE FARES REMAINED STABLE

Information on changes in average airfares can provide useful insights into trends for airfares to or from particular airports. However, information on average airfares does not reveal how airfares paid by individuals vary depending on their particular destination, purpose of travel (i.e., business or leisure), length of trip, or carrier chosen. Therefore, we examined some of these variations in much more depth and can now provide more information on the underlying causes of Charleston's relatively high average airfares.

Because available airline data do not distinguish the purposes for which passengers are traveling (i.e., business or leisure), we estimated changes in airfares paid by Charleston passengers who purchased business and leisure tickets. We identified representative airfares for business and leisure passengers for each carrier in all markets serving Charleston using accepted analytic techniques to account for the general tendency for leisure airfares to be less expensive than business airfares.<sup>11</sup>

US Airways and Delta Air Lines have dominated Charleston's air market during this decade. The most recent information indicates that in 1998, Delta carried 48 percent of passengers and US Airways carried 41 percent of passengers to and from Charleston. Against those two carriers' large market presence, there has been relatively little market entry since 1990. Eastern Airlines provided service to Charleston until it failed financially, and American stopped providing service to Charleston in 1994. On the other hand, Continental and Midway entered Charleston's market, as did two new airlines--Air South and AirTran--neither of which continues to operate at Charleston.<sup>12</sup> Figure 3 shows the change in the market share of major airlines, as measured by the percent of passengers carried, at Charleston from 1990 through 1998.

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<sup>11</sup>Leisure travelers generally pay less than business travelers do because they can take advantage of discounts associated with advance purchase and overnight stay requirements, whereas business travelers often cannot. To estimate the difference in these types of airfares, we examined the distribution of airfares in each market. We assumed that airfares at the 25<sup>th</sup> percentile are representative of airfares paid by leisure travelers and that airfares at the 75<sup>th</sup> percentile are representative of airfares paid by business travelers. This is the same approach being used by the Transportation Research Board for its ongoing review of competitive issues in the airline industry.

<sup>12</sup>Last week, Continental Express, Continental's regional subsidiary, began new nonstop service to Houston using a 50-passenger regional jet. This daily service will complement Continental's current service to Houston, which stops at Atlanta.

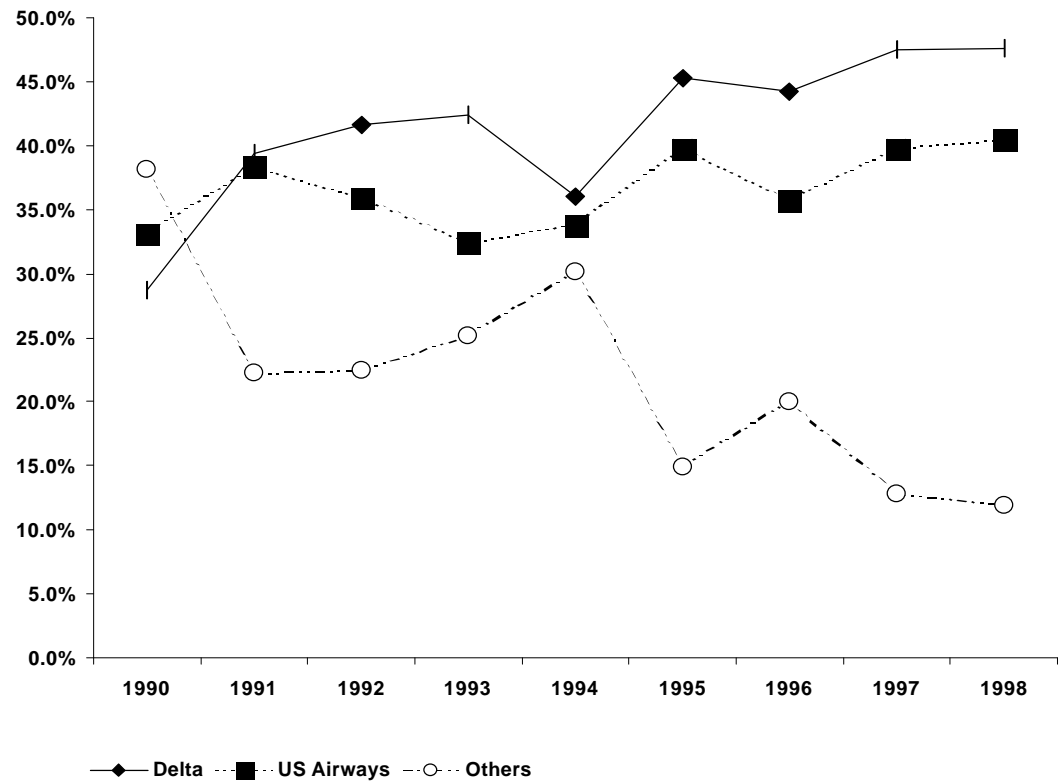


Figure 3: Percent of Charleston Passengers Carried by Major Airlines, 1990-98

Source: GAO's analysis of information from Data Base Products, Inc.

In 1998, approximately 1.4 million passengers flew to or from 288 different airports serving the Charleston market. However, more than half of those passengers flew to or from just 17 airports. Those 17 airports are generally dominated by either one or both of two airlines--US Airways and Delta Air Lines. There is no low-cost competition in these markets. Relatively few of these markets are among the nation's largest, as measured by the number of passenger trips made between those points of origin and destination. Of all city-pair markets in the United States in 1998, the market between Charleston and Atlanta (Charleston's largest market) ranked 830<sup>th</sup>, that between

Charleston and New York City (including all three of that area's major airports) ranked 440<sup>th</sup>, and that between Charleston and Washington, D.C. (Reagan National), ranked 870<sup>th</sup> in the United States in 1998. Charleston's 17 largest markets served an average of 193 passengers per day. Figure 4 identifies Charleston's top 17 markets.



Figure 4: Charleston's Top Origin and Destination Markets

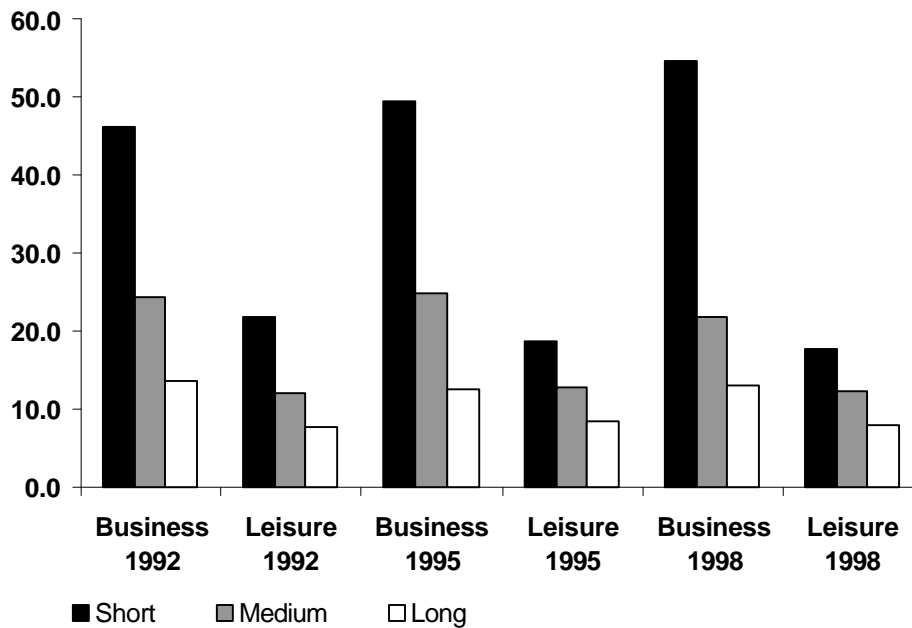
From the second quarter of 1992 through the second quarter of 1998, leisure airfares generally decreased while business airfares rose significantly. Among trips of various

distances, the difference in airfares for leisure and business passengers was greatest for short trips. In 1992, one-way business airfares on short trips originating in Charleston cost, on average, \$0.46 per mile, while similar leisure airfares cost \$0.22 (a difference of 113 percent).<sup>13</sup> In 1998, one-way business airfares on short trips originating in Charleston cost, on average, \$0.55 per mile, while similar leisure airfares cost \$0.18 (a difference of 207 percent). Figure 5 compares average business and leisure airfares for 1992, 1995, and 1998.

Figure 5: Average Business and Leisure Airfares, by Length of Trip, in Constant Dollars, for 1992, 1995, and 1998

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<sup>13</sup>Cities included in the short trip category include Atlanta, New York, Washington, Pittsburgh, and Detroit.



**Constant 1998 cents per mile**

Source: GAO's analysis of information from Data Base Products, Inc.

In summary, at three of the four airports serving communities in South Carolina that we reviewed--Charleston, Columbia, and Greenville-Spartanburg--airfares have fallen slightly since 1990 but have increased over the last few years. At Charleston and Columbia, the overall quality of air service has also declined. In addition, at Charleston, business fares have increased significantly, particularly to many of the destinations important to the community's passengers. Only at the airport serving Myrtle Beach did the community benefit from both a significant decrease in average airfares and an increase in the quality of air service. We believe that Myrtle Beach may have benefited



from deregulation more than the other communities in our review because it is primarily a leisure destination and has low-cost competition. As we have reported consistently, competition is the most important factor in ensuring that the benefits of deregulation are extended throughout the country.

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Mr. Chairman, this concludes our prepared statement. We would be glad to respond to any questions that you or any Member of the Committee may have.

## RELATED GAO PRODUCTS

Airline Deregulation: Changes in Airfares, Service Quality, and Barriers to Entry (GAO/RCED-99-92, Mar. 4, 1999).

Aviation Competition: Effects on Consumers From Domestic Airline Alliances Vary (GAO/RCED-99-37, Jan. 15, 1999).

Aviation Competition: Proposed Domestic Airline Alliances Raise Serious Issues (GAO/T-RCED-98-215, June 4, 1998).

Domestic Aviation: Service Problems and Limited Competition Continue in Some Markets (GAO/T-RCED-98-176, Apr. 23, 1998).

Aviation Competition: International Aviation Alliances and the Influence of Airline Marketing Practices (GAO/T-RCED-98-131, Mar. 19, 1998).

Airline Competition: Barriers to Entry Continue in Some Domestic Markets (GAO/T-RCED-98-112, Mar. 5, 1998).

Domestic Aviation: Barriers Continue to Limit Competition (GAO/T-RCED-98-32, Oct. 28, 1997).

Airline Deregulation: Addressing the Air Service Problems of Some Communities (GAO/T-RCED-97-187, June 25, 1997).

International Aviation: Competition Issues in the U.S.-U.K. Market (GAO/T-RCED-97-103, June 4, 1997).

Domestic Aviation: Barriers to Entry Continue to Limit Benefits of Airline Deregulation (GAO/T-RCED-97-120, May 13, 1997).

Airline Deregulation: Barriers to Entry Continue to Limit Competition in Several Key Domestic Markets (GAO/RCED-97-4, Oct. 18, 1996).

Domestic Aviation: Changes in Airfares, Service, and Safety Since Airline Deregulation (GAO/T-RCED-96-126, Apr. 25, 1996).

Airline Deregulation: Changes in Airfares, Service, and Safety at Small, Medium-Sized, and Large Communities (GAO/RCED-96-79, Apr. 19, 1996).

International Aviation: Airline Alliances Produce Benefits, but Effect on Competition Is Uncertain (GAO/RCED-95-99, Apr. 6, 1995).

Airline Competition: Higher Fares and Less Competition Continue at Concentrated

Airports (GAO/RCED-93-171, July 15, 1993).

Computer Reservation Systems: Action Needed to Better Monitor the CRS Industry and Eliminate CRS Biases (GAO/RCED-92-130, Mar. 20, 1992).

Airline Competition: Effects of Airline Market Concentration and Barriers to Entry on Airfares (GAO/RCED-91-101, Apr. 26, 1991).

Airline Deregulation: Trends in Airfares at Airports in Small and Medium-Sized Communities (GAO/RCED-91-13, Nov. 8, 1990).

Airline Competition: Industry Operating and Marketing Practices Limit Market Entry (GAO/RCED-90-147, Aug. 29, 1990).

Airline Competition: Higher Fares and Reduced Competition at Concentrated Airports (GAO/RCED-90-102, July 11, 1990).

Airline Deregulation: Barriers to Competition in the Airline Industry (GAO/T-RCED-89-65, Sept. 20, 1989).

Airline Competition: Fare and Service Changes at St. Louis Since the TWA-Ozark Merger (GAO/RCED-88-217BR, Sept. 21, 1988).

Competition in the Airline Computerized Reservation Systems (GAO/T-RCED-88-62, Sept. 14, 1988).

Airline Competition: Impact of Computerized Reservation Systems (GAO/RCED-86-74, May 9, 1986).

Airline Takeoff and Landing Slots: Department of Transportation's Slot Allocation Rule (GAO/RCED-86-92, Jan. 31, 1986).

Deregulation: Increased Competition Is Making Airlines More Efficient and Responsive to Consumers (GAO/RCED-86-26, Nov. 6, 1985).

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